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THE HALL, WOLLATON

From NASH'S *Mansions of England in the Olden Time. Third Series.*

WOLLATON, NOTTINGHAMSHIRE.

We have already referred in terms of commendation to the two series of views of the *Mansions of England in the Olden Time*, by Mr. Joseph Nash, from each of which series we obtained permission to copy three views. On proceeding to avail ourselves of a similar licence with respect to the third series, recently published, we feel much pleasure in stating that the present volume will not terminate the production of these beautiful books.

The lively interest evinced in the progress of my labours, (says Mr. Nash,) and the many personal attentions shown to me by the possessors of those mansions already visited by me, together with the continued success and approbation that have attended the publication, have determined me to persevere in my already expressed design of delineating all the most remarkable examples of domestic architecture remaining of the old time. Every successive journey has made me acquainted with more unlooked-for relics of the architectural splendour of the old Baronial Halls and Manor-houses, and I have no doubt that there exist many, yet to be brought to light, of fully equal interest to those already before the world.

These views, or rather pictures, are beautiful as works of art, and valuable as illustrations of history. They are drawn on stone in the tinted style, with raised lights, and in some cases advantage has been taken of Mr. Hulmandel's invention of the Lithotint, "a process of drawing on stone with the brush, both pleasant and painter-like in its execution, and brilliant and powerful in its results." We need scarcely add that these views are from *original* sketches. Mr. Nash displays in them a most intimate knowledge of the various grand, romantic, and picturesque details of Tudor architecture;—nor has he viewed the stately mansions and halls of England with the eye of an architect merely;—one great charm of his pictures is to be found in their touching reality:—the old furniture, the instruments and utensils of art and industry, the ornaments, and the many little accessories which an intimate knowledge of the subject alone can give, are restored to their appropriate places in these fine old abodes;—the occupants too, both of high and low degree, clad in their appropriate costumes, impart animation and truth to every scene, engaged as they are, singly or in groups, in various employments and amusements; or, in larger numbers, celebrating some of our old English games* with such earnestness that we are almost disposed to feel angry that we cannot throw down the pen and hasten to join them.

Our frontispiece is copied from the fifth plate of the third series, and represents the Hall at Wollaton, in Nottinghamshire the seat of the Lord Middleton.

The construction and use of halls is of considerable antiquity. William Rufus constructed a hall in his palace at Westminster which preceded all others in point of antiquity and dimensions. Halls were afterwards erected at Chester, Bristol Castle, Woodstock, and Beaumont in Oxford. These were probably of rude construction, and were divided into two aisles by stone arches or upright beams of timber.

When castles came to be constantly inhabited, and the necessary resort to them of equals, and feodal dependants at solemn feasts and customary entertainments, required a large space, attention was bestowed on the internal architecture and characteristic ornaments of these halls, more especially at the upper end where were the dais† and the high table‡. Edward I. erected a hall in his castle at Conway, from which period no principal residence of the nobility or feudal lords was without one; and though in the general plan they corresponded with each other, yet they varied both in minuter parts and in the degree of magnificent construction.

When the stern castles of the nobles were superseded by the mansions which Mr. Nash depicts so well, halls were still retained, and their internal arrangement followed a general plan. The high table was elevated upon a platform above the level of the floor, and was reserved for the lord and his family with the superior guests. Around the walls were separate tables and benches for the officers of the household and dependants. In the centre was the great fire-place open on all sides, placed immediately beneath a turret in the roof called a *louvre*, for the purpose of conveying away the smoke; this was the most ancient, but a very imperfect expedient. Chimney-places included within the walls were a luxury due to more modern invention.

The expansive roofs were made of timber frame of oak or chesnut. Whether of the indigenous material, oak or chesnut, or of the latter imported from Portugal and Castile, is uncertain. It was firmly compacted together with considerable geometrical skill, and admitting many of the ornamental forms in carved wood, which abounded in the age in which they were erected.

Large corbels of stone and projecting trusses issued from the side walls, and were disposed in the bays (likewise called *severys*) between each window. Upon the ends of these were likewise carved demi-angels, each holding a large escutcheon to its breast. The vast superincumbent frame-work was thus supported, and was composed of open lattices, which gave much lightness by perforation, and were finished with pendants. Near to the high table was a projecting or bay window, fully glazed, and frequently with armorial stained glass, in which was placed the standing cupboard, to contain the splendid display of plain and parcel gilt plate. The rere-dos was a frame with tapestry, sometimes canopied, fixed behind the seat of the sovereign or the great chieftain when he dined in public. Around the walls was wainscot of paneled oak or strained suits of tapestry, that is, in the fourteenth century, the era of their introduction.

Having given these details on the subject of Halls in general, we proceed to notice that of Wollaton in particular. It is situated in the parish of the same name, at a pleasant walking distance from the town of Nottingham. The approach to the house is through a noble winding avenue of lime-trees, nearly a mile in length. The park is extensive and well stocked with deer; it also contains spacious sheets of water supplied with a variety of fish and enlivened by aquatic birds; it is also broken into gentle swells, well wooded with oak and elm, and at intervals admitting some very picturesque and extensive views of the surrounding landscape. A fine sweep leads round to the north front of the house, which stands on a knoll, and exhibits a most magnificent appearance even at a considerable distance, lofty and antique, and bearing some resemblance to the august tower of an ancient cathedral, "bosom'd high in tufted trees."

The building, which is in the Elizabethan style, is square, with four large towers, adorned with pinnacles: and in the centre, the body of the house rises higher, with projecting coped turrets at the corners. The front and sides are adorned with square projecting Ionic pilasters; the square stone windows are without tracery; and the too great uniformity of the whole is broken by oblong niches, by circular ones filled with busts of philosophers, emperors, empresses, and by some very rich mouldings.

Sir Francis Willoughby, Knt., is said to have built the house according to a plan of his own, and that the works were superintended by John Thorpe, the celebrated English architect. Another account gives the honour to Robert Smithson, who is described, in his epitaph in the church at Wollaton, as "Architector and Surveyor, unto

* In a course of articles entitled "England in the Olden Time," contained in *Saturday Magazine*, Vols. XIV., and XV., we described some of the most remarkable of the old English sports and games.

† The haut-pas, or dais, was a part of the floor elevated above it, and approached by three steps at least.

‡ Halls were sometimes so spacious as to admit of a knight's riding up to the high table, as the Champion of England was accustomed to do at the coronation. Thus Chaucer:—

"In at the halle dore al suddenlie
There came a knight upon a stede,
And up he rideth to the high borde,"

the most worthy House of Wollaton, with divers others of great account; obiit 1614." He is supposed to have been Thorpe's pupil and successor.

Camden, in his *Britannia*, censures the motives of the founder of this stately hall, asserting that by the time it was finished, it had sunk three lordships. In another place, in speaking of Wollaton, he says, "where in our own time Sir Francis Willoughby, at great expense, in a foolish display of his wealth, built a magnificent and most elegant house with a fine prospect." Mr. Nash says:—"In grandeur and unity of design, though not in extent, this noble edifice, in respect of its external beauty, may be considered the most striking of the numerous magnificent mansions of the Elizabethan era.

The garden front of the mansion, is the most richly decorated; the entrance front being somewhat similar. The building forms a square, in the centre of which is the Hall, occupying the whole ground space of the central tower—a very remarkable feature of the edifice, and to which all the rest of the building is subordinate. In this as in almost all other of the Elizabethan mansions, the masonry and workmanship are so excellent, that they have more freshness of execution in their details, as well as solidity in their construction, than many buildings of recent date.

The entrance hall contains an armoury for the county, consisting of a number of musquets with their accoutrements all disposed in a regular and ornamental manner. From hence we enter the hall, the interior of which "will strike every observer by its stupendous height and singular proportion, the screen itself being loftier than many of the halls of that period. Its dimensions may be described as those of a double cube, being as high again as its length. Notwithstanding its immense height, this apartment is perfectly comfortable, and is used at the present day. The roof is very bold in construction, and has a very elegant effect; and the screen is of stone, richly decorated in the Italian style." The gallery contains an organ and a handsome clock. The walls and ceiling are painted by La Guire; and there are several pictures by the old masters. There are also imitations of elks' heads, but with real horns, over every door; near to the gallery is a family piece: and the gallery itself contains some family portraits.

The saloon is described as an elegant and airy apartment containing some good pictures; but the attention of the stranger is principally directed to the windows, from whence there is a most enchanting prospect of the pleasure grounds, and their various ornaments of buildings and water, backed by fine groves, in which are seen shady walks, and all the beauties of garden scenery.

The principal staircase is elegantly painted in fresco; the subjects are chosen from heathen mythology. The dining-room up stairs is furnished with some capital family pictures, among which are particularly pointed out that of Sir Richard Willoughby, Lord Chief Justice during the space of twenty three years, in the reign of Edward the Third; and secondly Sir Hugh Willoughby, who was frozen to death in the North Seas, in 1554*.

The drawing-room is plain and elegant, and is furnished with some pictures; the billiard-room contains what is called the original picture of the Earl of Strafford and his secretary, the night before his execution. The picture is said to have considerable merit, and to be a just likeness of the unfortunate nobleman.

The secondary staircase is ornamented with some good paintings. A circular staircase in one of the towers conducts the visitor to the Upper-room or Ball-room, which rises above the centre of the roof. Mr. Nash says that this room has been entirely modernised.

Two of the turrets contain neat rooms, to which the approach is from the roof of the house, from whence there is a most delightful and extensive prospect of the well wooded park and gardens, in which the water and bridge have a very fine effect; and the Woulds together with the vale of Belvoir, add much to the beauty of the prospect, contrasting finely with the rich foreground. The ornaments of the roof consist principally of a number of statues of tolerable workmanship, and well preserved: the mode of arranging the chimnies is so ingenious that they appear rather designed for ornament than use.

Descending from this elevation, the Library is the next object of attraction. It is a long room wainscotted in imitation of oak, with a good selection of books on general subjects, well arranged. Here is an ancient folio Missal, highly illuminated; also an ancient service book of Wollaton church, bought from the last Roman Catholic Rector for ten marks, containing the whole service set for chanting in the ancient manner. Henry, the fifth Lord Middleton, with many portraits of the earlier branches of the Willoughbys, are in this apartment; together with a very curious antique cabinet, ornamented with animals and flowers, inlaid with mother of pearl.

Near the mansion is the ancient pleasure-ground, in which the antique style is preserved, though with some modern alterations and additions. The modern flower and kitchen gardens are at some distance from this, and completely hid in wood, so as only to be visible from the upper part of the house. In the grounds there is a curious summer-house in the grotto style, pannelled and ceiled with looking-glasses, and ornamented with paintings and shell-work. Under it is a *water-house*, formed completely in the grotesque, with shell and rock-work.

The ancient village church of Wollaton contains several memorials of the Willoughby family, among which may be mentioned a monument to Richard Willoughby, Esq. and his wife, who died about 1481; it resembles an ancient fire-place in a gothic hall, and in the centre is a large grating, inside of which lies the representation of a skeleton on the floor. Here is also a monument of Henry Willoughby in armour, with two female figures on one side, which lie in a line, and are just his length. He is in the attitude of prayer; and the lower part of the altar contains four figures, two of which are sons in armour, and two daughters in the costume of the time. Three gothic arches in the body of the tomb show a statue of a corpse in grave clothes. The date is 1528; no less than eighty-three years before the institution of Baronets; yet the inscription on the tomb has "*miles pro corpore regis &c., Baronettus*," which, however, has been regarded as a mistake for "Bannerettus."

* The reader will find the interesting history of this brave man in our first notice of Old English Navigators.—See *Saturday Magazine*, Vol. XIX. p. 199.

Be wise to day: 'tis madness to defer:
Next day the fatal precedent will plead;
Thus on, till wisdom is pushed out of life,
Procrastination is the thief of time:
Year after year it steals, till all are fled,
And to the mercies of a moment leaves
The vast concerns of an eternal scene.—YOUNG.

Those who have been accustomed to consider the gipsy as a wandering outcast, incapable of appreciating the blessings of a settled and civilized life, or, if abandoning his vagabond propensities, and becoming stationary, as one who never ascends higher than the condition of a low trafficker, will be surprised to learn that amongst the gipsies of Moscow there are not a few who inhabit stately houses, go abroad in elegant equipages, and are behind the higher orders of the Russians neither in appearance nor mental acquirements. To the female part of the gipsy colony of Moscow, is to be attributed the merit of this partial rise from degradation and abjectness, having from time immemorial so successfully cultivated the vocal art, that though in the midst of a nation by whom song is more cherished and cultivated, and its principles better understood than by any other of the civilized globe, the gipsy choirs of Moscow are, by the general voice of the Russian public, admitted to be unrivalled in that most amiable of all accomplishments.—BORRAD'S *Gipsies*.

THE IGNIS-FATUUS, OR WILL O'-THE WISP.

Now black and deep the night begins to fall,
A shade immense! Sunk in the quenching gloom,
Magnificent and vast, are heaven and earth.
Order confounded lies; all beauty void;
Distinction lost; and gay variety
One universal blot: such the fair power
Of light, to kindle and create the whole.
Drear is the state of the benighted wretch,
Who then, bewildered, wanders through the dark,
Full of pale fancies, and chimeras huge;
Not visited by one directive ray,
From cottage streaming, or from airy hall.
Perhaps impatient as he stumbles on,
Struck from the root of slimy marshes, blue,
The wild fire scatters round, or gather'd trails
A length of flame deceitful o'er the moss:
Whither decoy'd by the fantastic blaze,
Now lost and now renew'd, he sinks absorb'd.
Rider and horse, amid the miry gulf:
While still from day to day, his pining wife
And plaintive children his return await,
In wild conjecture lost. At other times,
Sent by the better Genius of the night,
Innoxious, gleaming on the horse's mane,
The meteor sits; and shows the narrow path,
That winding leads through pits of death, or else
Instructs him how to take the dangerous ford.—

THOMSON.

WHEN we have ascertained with tolerable accuracy the cause of some particular phenomenon in nature, we are too apt to generalize hastily, and to conclude that all similar phenomena are due to that cause; whereas it happens not unfrequently that effects may greatly resemble each other, and yet not be due to a common origin. Such is the case with respect to those remarkable appearances known by the name of *Ignis-fatuus*, *Will-o'-the-Wisp*, and *Jack-o'-Lantern*. Some consider this appearance to be due to an unctuous phosphorized vapour arising from marshy ground; others that it is an accidental combustion of some inflammable gas, which becomes visible when floating in denser air; a third opinion refers it to the ignition by atmospheric electricity of the light carburetted hydrogen of marshes; while entomologists not long ago considered it to be produced by the luminous members of certain winged insects. Now it is very probable that more than one of these causes may fairly be assigned to the variety of forms under which the Will-o'-the-wisp from time to time appears.

Let us first state some of the evidence offered by certain naturalists, that the Will-o'-the-wisp is not a meteor, but a luminous insect. Mr. James Dixson, the botanist, declares that he has seen a luminous insect settle on a plant and fly off again. Mr. A. Chambers, a gentleman residing near Lincoln, where the Will-o'-the-wisp is frequently seen, relates, that when a lad, returning in the dusk of evening through Bulthamwood, he observed behind him a Jack-o'-lantern which followed him through the wood; and when this luminous appearance came to the gate at the end of the path it rose to clear the upper bar, and flew into the adjoining meadow. At another time he observed two Will-o'-the-wisps flying about each other for a considerable time apparently as if in play, and at length they settled on a furze-bush.

In an early volume of the *Philosophical Transactions* the celebrated Derham says:—

It is the opinion of divers skilful naturalists, particularly Mr. Francis Willughby and Mr. Ray, that the Ignes-fatui are only the shining of a great number of the male glow-worms in England, or of the Pyraustæ in Italy, flying together. My own observations I made at a place that lay in a valley between rocky hills, which I suspect might contain minerals, in some boggy ground near the bottom of those hills. When seeing one in a calm dead night, with gentle approaches, I got up by degrees within two or three yards of it, and viewed it with all the care I possibly could. I found it frisking about a dead thistle growing in the field, until a small motion of the air, even such as was caused by the approximation of myself, made it skip to another place, and thence to another and another.

Mr. Arthur Aikin, in his *Tour through Wales*, was not a little surprised to see the glow-worms at his approach darting over the hedges into the fields. Knowing the female alone to be luminous, and at the same time destitute of wings, this phenomenon puzzled him a good deal, and he could not account for it, but by supposing that the male sometimes carried the female through the air.

Mr. Stothard supposes the Will-o'-the-wisp to be produced by the mole cricket, and Mr. Kirby relates the following corroborative anecdote:—

The Rev. Dr. Sutton, of Norwich, states that when he was curate of Tikleton, in Cambridgeshire, in 1780, a farmer of that place of the name of Simpringham brought to him a mole cricket, and told him that one of his people seeing a Jack-o'-lantern, pursued and knocked it down, when it proved to be this insect, and the identical specimen shown to him.

Mr. Kirby, who strongly advocates the opinion of these supposed meteoric appearances being luminous insects, gives the following fact:—

Mr. Sheppard travelling one night between Stamford and Grantham, on the top of the stage, observed for more than ten minutes a very large Ignis-fatuus, in the low marshy grounds, which had every appearance of being an insect. The wind was very high; consequently had it been a vapour it must have been carried forward in a direct line; but this was not the case. It had the same motions as a tipula, flying upwards and downwards, backwards and forwards; sometimes appearing as settled, and sometimes as hovering in the air.

Mr. Richard Chambers, in the *Magazine of Natural History*, attempts to prove that such cases of Ignes-fatui as the above must be produced by insects, but his facts and arguments only serve to prove that certain nocturnal luminous appearances may be connected with the light of certain insects.

The following case, related by Mr. Wailes, in the *Entomological Magazine*, brings us to a far more philosophical view of the question.

Two gentlemen were riding along the road between Hexham and Alston in the month of May, and in crossing the wild moors, near the place where the counties of Northumberland and Cumberland join, they were surprised, about ten o'clock at night, by the sudden appearance of a light within fifteen yards of the road-side. It was about the size of the hand, and its shape, which was oval, was very well defined. The light is described as being more like that of a bright white cloud than of a flame. The place where it appeared was very wet, and the peat-moss had been dug out, leaving what are locally termed "peat-pots," which soon fill with water, affording nourishment to numerous confervæ and the various species of sphagnum, which, in their turn, are metamorphosed into peat. These places, no doubt, during the decomposition of vegetable matter, give out large quantities of gas. The light was about three feet from the surface of the ground, and, hovering over the peat-pots, moved for the distance of about fifty yards nearly parallel with the road, and then, probably on the failure of the supply of gas, suddenly went out. The manner of its disappearance was similar to that of a candle being blown out: it vanished at some distance from the ground, and could not, therefore, have been produced by an insect.

That the ignus-fatuus, properly so called, is due to an inflammable vapour seems to be now completely established by the observations of Major L. Blesson, of Berlin, who made many experiments on the subject in a valley in the forest of Gubitz, in the Newmark. This valley cuts deeply in compact loam, and is marshy on its lower part. The water of the marsh is ferruginous, and covered with an iridescent crust. During the day bubbles of air are seen rising from it, and at night blue flames are observed shooting from and playing over its surface. Suspecting that some connection existed between the flames and the bubbles of air,

Major Blesson marked the place where the latter rose abundantly, repaired thither during the night, and found bluish purple flames, which he did not hesitate to approach. On reaching the spot they retired, and all attempts to examine them closely were ineffectual. Conjecturing that the motion of the air on approaching the spot forced forward the burning gas, and remarking the flame to burn darker when blown aside, he concluded that a continuous thin stream of inflammable air was formed by these bubbles, which, once inflamed, continued to burn, but which, owing to the paleness of the light of the flame, could not be observed by day.

This gentleman made another visit at twilight, and waited the approach of night:—the flames became gradually visible, but redder than formerly, thus showing that they burnt also during the day. As he approached, they retired:—convinced that they would return to the place of their origin when the agitation of the air ceased, he remained quite motionless and observed them gradually approach. As he could not easily reach them, he thought of attempting to set fire to a piece of paper by means of them, but did not succeed, owing, as he found, to the slight current produced by breathing. He then held away his face, and also interposed a piece of cloth as a screen, when the paper was singed and became brown-coloured, and covered with a viscous moisture. On using a narrower strip of paper it caught fire. Hence this ignis-fatuus proceeded from an inflammable gas, and not from a mere phosphorescent luminous vapour.

He then attempted to extinguish these lights, by following the flame as it retired before him; by this means he removed it so far from the marsh that probably the thread of connexion, so to speak, was broken, and it was extinguished. But scarcely a few minutes had elapsed when it was again renewed at its source over the air bubbles, without his being able to observe any transition from the neighbouring flames, many of which were burning in the valley. This experiment was frequently repeated, and always with the same success. As the dawn approached, the flames appeared to approach nearer to the earth, and gradually faded from the view.

On the following evening he went to the spot and kindled a fire on the side of the valley, in order to have an opportunity of trying to inflame the gas. He first extinguished the flame as on the previous evening, and then hastened with a torch to the spot whence gas was bubbling up, when instantaneously a kind of explosion was heard over eight or nine square feet of the surface of the marsh; a red light was seen, which diminished to a small blue flame from two and a half to three feet in height, which continued to burn with an unsteady motion. It was, therefore, no longer doubtful that this ignis-fatuus was caused by the evolution of inflammable gas from the marsh. He also thinks it probable that the fires which sometimes break out in forests are caused by ignes-fatui.

On another occasion at Malapane, in Upper Silesia, the same observer passed several nights in the forest where ignes-fatui were frequently visible. Here he also succeeded in extinguishing and inflaming the gas, but could not ignite paper or thin shavings of wood by its means.

He also made further experiments in the Konski forests, in Poland, where the flame appeared of a darker hue than usual, but he could not ignite paper or wood; on the contrary their surfaces were speedily covered with viscous moisture.

From the summit of the Porta Westphalia, near Minden, to which he had ascended during the dark, and whence no ignis-fatuus was visible, he played off some fire-works, but scarcely had he fired off the first rocket when a number of small red flames were observed below the summit, which were speedily extinguished, to be succeeded by others on firing the next rocket.

These facts are extremely interesting and important, as indeed all facts in natural history are, when well authenticated, and narrated in simple language, without any attempt to ascertain their cause. The moment the observer becomes anxious to explain all he sees, the charm of his narrative is broken, for he then takes leave of the beauties of creation in order to wander and perhaps lose himself in the tangled mazes of theory.

Much as we admire the facts ascertained by Major Blesson we differ from his conclusions: he is induced by these facts to separate igneous from luminous meteors, and to free them from all connection with electricity: he thinks "that the gas is of a *chemical nature*, and becomes inflamed on coming in contact with the atmospheric air."

Now, without stopping to inquire what is meant by the gas being of a "chemical nature," for all gases are such, we may remark that chemists are acquainted with only one gas which ignites on coming in contact with the atmosphere, and that is the phosphuretted hydrogen. Now the gas which is formed in stagnant pools during the spontaneous decomposition of vegetable matter, is well known to chemists as the light carburetted hydrogen, and may be procured by stirring up the fetid mud and collecting the gas that rises in an inverted glass jar; in this state it is mixed with a little nitrogen and carbonic acid. It is inflammable, but not spontaneously so by mere contact with the atmosphere. The presence of the flame or of electricity is necessary to its ignition. Volta supposes phosphuretted hydrogen to be mingled with the carburetted hydrogen of the marshes; but as the hydrogen is not saturated with phosphorus, the greater proportion of the latter being precipitated in passing through the water, as red oxide of phosphorus, a certain electrical tension of the atmosphere is necessary to cause the combustion. Thus under common circumstances the gas is dissipated without being observed; but when the state of the atmosphere is competent to effect its combustion, the proper degree of electrical tension is lost at the place where an explosion is effected; and until it is replaced, or the gas comes into contact with that layer of the atmosphere which possesses the requisite degree of electrical tension, a considerable body of bog gas may collect and be carried in the direction of the wind, so as to give afterwards rise to a sort of quick-fire, with occasional flashes in those places of the stream of gas when there happens to be a considerable volume of it. In calm nights the flames may play in a vertical direction, so as to imitate the motions of gnats, and they may even appear to alight on some object; though when this has been observed it is more probable that the case has been one of St. Elmo's fire.

By referring to *Saturday Magazine*, Vol. XVI., p. 67, the reader will find an interesting account of some cases of ignes-fatui different from those given in this article.

We may also remark, that the term *Jack o'Lantern* is derived from *Jack o'Lent*, the name of a puppet formerly thrown at, like shrove cocks during Lent. Thus we read in QUARLES' *Shepheard's Oracles*, 1646:

> How like a *Jack o'Lent*
> He stands, for boys to spend their Shrove-tide throws,
> Or like a puppet made to frighten crows.

DIRGE.

"Their works do follow them."—Rev. xiv. 13

SHALL their praise no more be known,
When the loved are lost and gone!
Shall their virtues not survive,
To teach the mourners how to live,
And tread the bright but thorny road
That leads to glory and to God?
If humble thought, or deed of mine
Can e'er avert it, be this line
Inscribed upon their narrow cell,
"Be what they were, and sleep as well."—H.

RURAL ECONOMY FOR THE MONTHS.

JULY.

From blades of blue-ting'd verdure rears
The wheat its sharp and swelling ears,
And its fresh green with change indues
Day after day of richer hues,
Till dipt in molten gold it seem,
Stolen from Pactolus fabled stream.
The bristling barley's purple bloom
Waves in the gale its egret plume:
Waved in the gale as lightly float
The pendants of the bended oat.—MANT's *British Months.*

JULY usually proves the hottest month of the year, and before its close the progress of the crop is generally such as to allow of the commencement of harvest. In the eastern parts of England this is the chief turnip-sowing season; and we may add some of the advice of an agricultural writer to what we have already said with respect to this precarious crop.

Neglect no reasonable precaution or scientific improvement. Drill in rows, and use the manure-drill. A weak solution of carbonate of ammonia (one pound to five quarts of water) is a good steep for the seed; we have seen a pound of saltpetre added to the ammonia with good effect. Keep the hand-hoe or the horse-hoe continually at work; this, by keeping the soil loose, admits the air to the roots of the young turnips, and pushes them rapidly into broad-leaf. You may have to sow two or three times for this valuable root, but have in case of need, especially for your Swedish turnip land, a copious supply of cabbage-plants, ready to fill up all gaps; they will supply, by good management almost all the deficiencies in the Swedish turnips. Do not fancy that by any mechanical means you can kill the fly; or that the black caterpillars are bred in the crushed bones; the boiled bones of Manchester are extensively used for turnips in the midland counties, and the fields where they have been drilled are equally attacked with those manured with the fresh or green bones. Rapecake powder has been successfully drilled with the turnip-seed in Norfolk and Essex, at the rate of five or six hundred weight per acre; this fertiliser is very noxious to the wire worm,—the most stubborn of all the predatory vermin of the farmer's crops.

Another farming operation during this month is the preparation of fallows for wheat, for scarcely is one series of crops arrived at maturity before it is necessary to make provision for another. Among agriculturists it is sufficient to make use of the terms "naked fallow," "green fallow," &c., to designate the sort of land we are speaking of, but to those who are little conversant with rural affairs, it may not be so intelligible thus to speak: indeed, there may exist considerable doubt as to the meaning of the word fallow itself. Fallow land, then, is such as has been repeatedly ploughed over and subjected to the influence of the atmosphere, in which case it becomes friable, freer from weeds, and better adapted to the subsequent uses for which it is intended. A naked fallow is that which, after ploughings and harrowings of more or less frequency according to the crop that is to be grown on it, is left unsown for some length of time. A green fallow is that in which the land has been cleared and mellowed by means of some kind of green crop, such as peas, tares, turnips, potatoes, &c., and thus the land has not been left idle and unproductive. Fallows are likewise distinguished as summer or winter fallows, according to the season at which the business of ploughing and harrowing is chiefly or wholly performed. They are also named after particular crops, as, "turnip fallows," "potato fallows," &c. Fallowing, according to Sir H. Davy, affords no new source of riches to the soil, but merely tends to produce an accumulation of decomposing matter, which, in the common course of crops, would be employed as it is formed. This writer remarks that it is hardly possible to imagine a single instance of a cultivated soil, which can be supposed to remain fallow for a year with advantage to the farmer; the only case where this practice is beneficial seems to be in the destruction of weeds and for cleansing foul soils.

The views of Liebig are altogether opposed to naked fallows; he says:—

The fallow time is that period of culture, during which land is exposed to a progressive disintegration by means of the influence of the atmosphere, for the purpose of rendering a certain quantity of alkalis capable of being appropriated by plants. Now it is evident that the careful tilling of fallow land must increase and accelerate this disintegration. Many plants of the family of the Leguminosæ are remarkable on account of the small quantity of alkalies or salts in general which they contain; the *Vicia faba*, (the bean,) for example, contains no free alkalis, and not one per cent. of the phosphates of lime and magnesia. The bean of the *Phaseolus vulgaris*, (dwarf kidney bean,) contains only traces of salts. The stem of the *Medicago sativa*, (lucern,) contains only 0·83 per cent., that of the *Ervum lens* (tares,) only 0·57 per cent. of phosphate of lime with albumen. Buck-wheat, dried in the sun yields only 0·681 per cent. of ashes, of which 0·09 parts are soluble salts. These plants belong to those which are termed fallow crops, and the cause why they do not exercise any injurious influence on corn which is cultivated immediately after them is, that they do not extract the alkalis of the soil, and only a very small quantity of the phosphates.

From the end of July to the middle of August our flocks are subjected to the most vigorous attacks of their formidable enemy, the flesh-fly,—an enemy which commences its ravages in the early part of June, and continues them until the end of September, though the period above-named is that at which it is at its greatest strength. As we wish to show the full extent of the evil arising from the attacks of this insect we shall take the worst cases, and those which can now rarely occur, unless the proper preventatives have been neglected, or the shepherd has committed a sad oversight. The depredations of this insect are greatly influenced by the general temperature of the season, and the existing state of the air. If the latter be dry and clear, the vigour of the fly is somewhat abated; if warm, close, and humid, it is greatly increased. The fly deposits its eggs in clusters of from five to fifteen, generally near the tail of the sheep, and each heap at a little distance from the next. These eggs are about the twentieth or thirtieth of an inch in length, and in diameter not larger than a very fine hair. They are of a whitish colour singly, but some of the collections have a yellow tint. It cannot be precisely ascertained how much time they require to become endowed with vitality, but it appears to be something less than twenty-four hours. The eggs have not been long in contact with the skin of the living sheep before they produce a slight blister filled with thin serous humour. As the maggots successively appear, and rapidly increase in size, they spread over a larger space, and the discharge of serous matter becomes so copious, that it may be observed flowing in streams along the skin, and welling out through the wool.

Another source of annoyance now arises to the poor tormented sheep, for millions of the common house-flies are attracted by this humour and penetrate to the spring from whence it issues, feeding among the maggots. At the same time these latter having penetrated the skin, eat along the fleshy parts beneath, and at last enter by thousands into the interior of the animal, which quickly dies. Altogether to prevent the flesh-fly from attacking sheep seems to be impossible, though means are now taken to diminish the extent of the evil. The means of rescuing the sheep when thus attacked are as follows. The shepherd removes the wool from the part on which the swarm has fixed, until he can completely see the extent of the evil. He will probably find that from one or two principal apertures made in the skin, narrow passages branch off in every direction. These are filled with maggots all in constant motion, as the foremost opens up a way for their advance. Thus the skin covers and protects these maggots, so that a mere exterior washing is then of no avail. The shepherd carefully removes

every one of these creatures from the different passages, and if the passage be longer than he can trace the end of with his finger, it is recommended to drop in some pieces of good clean tar, laying the sheep in such a position that when the tar melts it may run to the bottom of the perforation. The maggots will then all hasten out, and can be easily destroyed. Train oil is recommended as an unguent for the ulcerated parts.

In cases where the maggots are discovered early, and are in such situations as to be easily exposed to the action of any remedies that may be tried, a mixture of tobacco-juice and turpentine, or a solution of corrosive sublimate, are found effectual to their destruction. The latter is prepared by putting an ounce of the sublimate into about three pints of water, which is bottled and carried to the fold, to be applied on the first appearance of the evil. This solution does not sensibly affect the wool, nor does it injure the animal, provided the skin is not broken, nor the flesh deeply perforated.

Sheep that are labouring under any ailment or disease are in general the first to be attacked by the fly; great care should, therefore, be taken to employ all the means suited to alleviate each particular disease. If it should be induced from a sore or wound, a little simple ointment, lard, or oil should be rubbed in, and a small quantity of tar put near it, or on the top, but not rubbed into the wound or even the skin, as is the common practice, for the animal receives injury from the tar, and its recovery is thus retarded. It is said that much good may be done by driving the flock to high grounds during the heat of the day, or keeping them feeding in a dry situation where they are cooled by the wind. Exposure to the heat of the sun in low moist situations is very injurious. It is desirable to avoid, as far as possible, rubbing tar on the wool of infected sheep, but when other means fail, it becomes absolutely necessary to do so, and if properly used it will not injure much of the wool. It should have a strong smell of empyreumatic oil, as it is the disagreeable odour which prevents the fly from approaching to deposit her ova. Sometimes a little streaked on the ears and tail is found sufficient. Dirty or wet wool should be carefully clipped off, and a little quick-lime in powder may be dusted on the parts likely to be affected. A weak mercurial ointment is used in the North of England; and in the Highlands of Scotland it is common to rub wet clay or mould on the sore parts, so as to cover them and fill up any holes that may have been dug by the worms.

It is expedient, in order to restrain the increase of the flesh-fly within due limits, to remove immediately from the pasture the carcases of those sheep that die, from whatever cause, and carefully to prevent any vestiges from being left to encourage the fly. It has however been objected that in places where the fly is very numerous, such means might have the effect of compelling it, from a want of proper food for its offspring, to annoy the sheep more than ever. This has led to the suggestion that a single carcase of a sheep or some other animal should be left exposed in some convenient situation as a bait for the fly; but that the larvæ should be prevented from arriving at maturity, by dipping the carcase every three or four days in some neighbouring stream, when the maggots would be all washed out and drowned, or caught up by fish, to whom they afford a luxurious repast. In this way the flesh-fly is afforded an easy supply of food for its young, without the necessity of attacking the living animal. These are only a few of the means employed to subdue the evil; further information may be met with on this important subject in the Transactions of the Highland and Agricultural Society of Scotland, and other agricultural works.

The present month is the time now generally selected for dipping sheep in a preparation calculated to secure them from the vermin that infest them, and also from the attacks of the fly. Persons accustomed to the task take the sheep one by one, and immerse their whole bodies, with the exception of the head, in a bath filled with a poisonous mixture. This mixture is frequently of so acrid a character as to produce injurious effects on the hands and arms of the persons employed in dipping the flock; but it does not appear necessary to make use of so large a proportion of the deleterious ingredient as is generally recommended. The following is given as an excellent recipe for a sheep-wash. Half a pound of powdered white arsenic (arsenious acid), four pounds and a half of soft soap. Beat these for a quarter of an hour, or until the arsenic is dissolved, in five gallons of water. If black sulphur be added it will be still more effectual. Add this mixture to the water sufficient to dip fifty sheep. We may also mention a fly-powder which has been used with advantage. Two pounds of black sulphur, half a pound of hellebore; mix them together and sprinkle the sheep from the head to the tail with a dredging box.

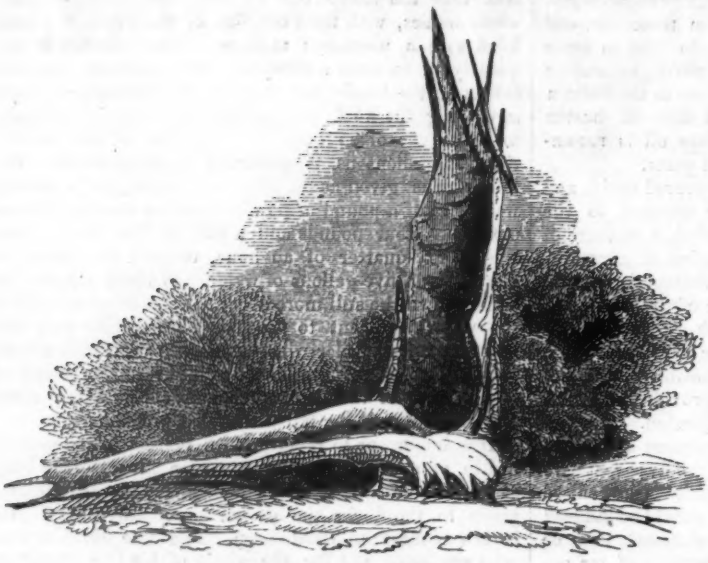
It is important to remark, with respect to the general health of sheep, that they ought in all cases to have access to common salt. In Spain, where salt is regularly given to the flocks the proportion employed is 112lbs in five months to 1000 sheep. The late Mr. Curwen, who employed salt for the whole of his live stock for years, with much success, was accustomed to vary the quantity according to the sort of food. When feeding on dry pasture, he gave his sheep from two to four ounces each per week, but if feeding on turnips or coles, he gave it without stint, and not only affirmed that sheep having free access to salt were never subject to the disease called the rot, but expressed a strong hope that the same simple means would be found an effectual *cure* for that devastating disease.

In allusion to the tormenting attacks of insects at this period of the year we may quote Bloomfield's artless recital of the sufferings of some of his humble favourites, with his condemnation of the practice of docking horses.

> Yet by the unclouded sun are hourly bred
> The bold assailants that surround thine head,
> Poor patient *Ball!* and with insulting wing
> Roar in thine ears, and dart the piercing sting:
> In thy behalf the crest-waved boughs avail
> More than thy short-clipped remnant of a tail,
> A moving mockery, a useless name,
> A living proof of cruelty and shame.
> Shame to the man, whatever name he bore,
> Who took from thee what man can ne'er restore,
> Thy weapon of defence, thy chiefest good,
> When swarming flies contending suck thy blood.
> Nor thine alone the suffering, thine the care,
> The fretful *Ewe* bemoans an equal share
> Tormented into sores, her head she hides,
> Or angry sweeps them from her new-shorn sides.
> Penned in the yard, e'en now at closing day
> Unruly *Cows* with marked impatience stay,
> And vainly striving to escape their foes
> The pail kick down; a piteous current flows.

Must not the conduct of a parent seem very unaccountable to a child, when its inclinations are thwarted; when it is put to learn letters; when it is obliged to swallow bitter physic; to part with what it likes; and to suffer, and do, and see many things done, contrary to its own judgment? Will it not, therefore, follow from hence, by a parity of reason, that the little child, MAN, when it takes upon itself to judge of parental providence—a thing of yesterday to criticise the economy of the ANCIENT OF DAYS—will it not follow I say, that such a judge, of such matters, must be apt to make very erroneous judgments? esteeming those things, in themselves, unaccountable, which he cannot account for; and concluding of some things, (from an appearance of arbitrary carriage towards him, which is suited to his infancy and ignorance,) that they are, in themselves, capricious or absurd, and cannot proceed from a wise, just, and benevolent God. This single consideration, if duly attended to, would, I verily think, put an end to many conceited reasonings against revealed religion.—BERKELEY'S *Minute Philosopher*.

REMARKABLE EFFECTS OF LIGHTNING.



A POPLAR STRUCK BY LIGHTNING.

WE have been favoured by a correspondent with the following interesting account of a thunder-storm, together with a sketch from which the above wood-cut was made. Our correspondent, who dates from Brampton Brian, says:—

"On Wednesday, the 25th of May, 1842, at eleven o'clock, A.M., a strong, but not very vivid flash of lightning was observed in this village, proceeding from the S.W., which was succeeded, after an interval of three seconds, by a peal of thunder which violently shook the buildings.

"A heavy shower fell soon after, and no more lightning was seen: wind S.W. but very slight,—clouds not very heavy or compact,—but gloomy, and slightly inclining to copper colour.

"Near Adforton, a village two miles and a half south-eastward of this place, and eight from Ludlow, a poplar tree nearly forty-five feet high was shivered by the fluid, and the ground, for a hundred yards round it, thickly covered with splinters, from four to twelve inches long, many of which seemed entirely smashed.

"The inclosed sketch of the only portion of the trunk left standing, was taken this morning: it is nearly nine feet high, and two feet across. The body of the tree was divided into eight or ten large portions, which came away with the branches, and fell wide of each other but all on the south side.

"Two circumstances are worthy of notice:—no part of the fragments or splinters is at all singed or discoloured; and again,—a farm-house, about two hundred yards north of it, lost several panes of glass,—this tree was standing in a hedge-row with three similar ones between it and the farm, but none of these appear in any way injured by the fluid."

To this account we append the following interesting description of a storm by Major Blesson of Berlin.

"On ascending a mountain, which rises rather more than two thousand feet above Teschen, I encountered a storm, concerning which the following particulars are not without interest. The wind blew from the south, and shortly after I commenced my ascent, enveloped the upper part of the mountain in clouds. The oppressive feeling of the air seemed to announced a coming thunder-storm, but hitherto, neither thunder nor lightning had occurred. The nearer I approached to the clouds, the darker was their colour, but still the sun shone brightly upon Teschen. The clouds, as seen from below, which exhibited a remarkable rotary motion, appeared sharply bounded, and I was therefore surprised when I came near them, to find, as usual, only a gradually denser and denser cloud which speedily wet me through. A particular rotatory wind appeared to prevail in this region (above half way up the mountain), occasioning a piercing cold, which was the more striking, as contrasted with the sultry heat and stillness below the clouds.

"I had hardly entered the dense part of the cloud, where it was so dark that I could with difficulty distinguish an object at my foot—(I name this dark, because I do not know any other expression for it; it is not, however, want of light; we have a white veil before us, which is constantly moving with a rotatory motion, which we cannot compare with anything else)—I was scarcely in the cloud, before I felt throughout my whole body a kind of expansive tension, which was excessively oppressive, and seemed to affect the walking of my companion, a poodle dog, even more than it did myself. The hair appeared to bristle up, and it seemed to me as if something was drawn out of the whole of my body. But this electric tension was of a very different character from that from an isolator. I bent down, in order to see the grass that surrounded me, and on which no dew was observed, —when I was suddenly enveloped in a bright sea of light, with a yellow lustre, and perceived, along with a violent noise, a sudden cessation of the former tension. The noise may be best compared with a distant dull cannon shot, only more continuous and louder, or may be compared with the explosion in a mine; but no rolling was heard. The grass was in motion, but I was too much surprised and confounded to make more particular observations.

"The convulsive motion of the cloud ceased for a moment, but immediately began again, and with it the tension was renewed. During the moments of rotation, the vaporic particles appeared to be arranged in rows into fibres which moved still more violently amongst each other, and after the explosion all was again calm, and a mere fog or cloud was visible. My poodle dog was the first object of my attention; it seemed to me to be thicker than usual, and his hair bristled up; I stroked it several times and saw it bristle up under my hand. A new flash of lightning took place, and I could distinctly perceive, notwithstanding the light, that the whole body of my dog glimmered with a peculiar lustre, the hair, formerly bristled up, now fell flat, and he sunk down upon his knees. This was a consequence of the stronger streaming of electricity from him than I experienced, and which seemed, as it were, to draw me from the mountain. Although during the tension, the feeling of drawing out was continuous and always increasing in intensity, still it was strongest at the moment when the electrical discharge took place; the hair bristled up more, and I felt something as it were passing from out my interior, and instantaneously all was past, and the hair flat again. On the next flash of lightning I noticed the appearance of the grass; on the discharge it appeared shining at its extremities; it became erect, when I felt the tension increasing in my body, but became gradually wet, and then sank down again."

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